Table 6.1 - Electric Power Sector Net Summer Capability

(Gigawatts)

	1980	1990	1999	2000	2010	2020
Coal [1]	NA	306.7	313.0	313.5	314.3	337.6
Petroleum/Natural Gas [2]	NA	221.2	257.6	283.4	437.8	581.0
Total Fossil Energy	458.9	527.9	570.6	596.9	752.1	918.6
Nuclear	56	99.6	97.5	97.5	94.3	88.0
Hydroelectric Pumped Storage [3]	NA	19.5	19.2	19.2	19.6	19.6
Conventional Hydroelectric	82.4	74	80.3	80.3	80.9	80.9
Geothermal	0.9	2.7	2.8	2.9	3.6	5.3
Wood [4]	0.1	6.2	6.6	6.7	8.4	10.4
Waste [5]	NA	2.6	3.3	3.4	4.4	4.8
Wind	NA	1.9	2.3	2.4	7.7	9.1
Solar Thermal and Photovoltaic	NA	0.3	0.4	0.5	0.9	1.1
Total Renewable Energy	83.4	87.7	95.7	96.1	105.7	111.6
Total Electric Capability [6]	598.3	734.9	783.0	809.7	971.7	1,137.8

Sources: EIA, *Annual Energy Outlook 2002,* DOE/EIA-0383 (2002) (Washington, D.C., December 2001), Tables A9, A17 ; EIA, *Annual Energy Review 2000*, DOE/EIA-0384(2000) (Washington, D.C., August 2001), Table 8.5

Notes:

[1] Coal, fine coal, anthracite culm, bituminous gob, lignite waste, tar coal, waste coal, and coke breeze.

[2] Petroleum, Natural Gas, and Dual Fired steam and combustion turbines consuming fuel oil nos. 1, 2, 4, 5, and 6, crude oil, petroleum coke, kerosene, liquid butane, liquid propane, methanol, liquid byproducts, oil waste, sludge oil, tar oil, blast furnace gas, coke oven gas, butane gas, propane gas, refinery gas, and other process and waste gases derived from coal, petroleum, and natural gas.

[3] Pumped storage included in Conventional Hydro prior to 1989.

[4] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[5] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solide byproducts, tires, agricultural byproducts, closed looped biomass, fish oil , and straw.

[6] Includes batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam, which are not separately displayed on this table.

Table 6.2 - Electric Utility Net Summer Capability

(Gigawatts)

	1980	1990	1999	2000	2010	2020
Coal	NA	299.6	304.6	304.6	305.7	329.0
Petroleum/Natural Gas [1]	NA	197.9	219.6	243.3	389.7	524.3
Total Fossil Energy	444.1	497.9	524.2	547.9	695.4	853.3
Nuclear	51.8	99.6	97.5	97.5	94.3	88.0
Hydroelectric Pumped Storage [2]	NA	19.5	19.2	19.2	19.6	19.6
Conventional Hydroelectric	81.7	71.4	79.3	79.3	79.9	79.9
Geothermal	0.9	1.6	2.8	2.9	3.6	5.3
Wood [3]	0.1	0.2	1.4	1.4	1.7	2.0
Waste [4]	NA	0.2	2.8	2.8	3.9	4.3
Wind	NA	s	2.3	2.4	7.7	9.1
Solar Thermal and Photovoltaic	0	s	0.3	0.3	0.5	0.7
Total Renewable Energy	82.7	73.5	88.9	89.1	97.2	101.2
Total Electric Capability [5]	578.6	690.5	729.8	753.7	906.5	1,062.1

Sources: EIA, *Annual Energy Outlook 2002,* DOE/EIA-0383 (2002) (Washington, D.C., December 2001), Tables A9, A17 ; EIA, *Annual Energy Review 2000*, DOE/EIA-0384(2000) (Washington, D.C., August 2001), Table 8.6.

Notes:

s = less than 0.05 GW

[1] Petroleum, Natural Gas, and Dual Fired steam and combustion turbine generator facilities, consuming natural gas, fuel oil nos. 1, 2, 4, 5, and 6, crude oil, petroleum coke, and kerosene.

[2] Pumped storage included in Conventional Hydro prior to 1989.

[3] Wood, wood waste, wood sludge, peat, railroad ties, and utility poles.

[4] Municipal solid waste, landfill gas, methane, digester gas, waste alcohol, sludge waste, solid byproducts, tires, and tires.

[5] As of 1999, grid-connected nonutility generation is included with electric utility generation. Grid-connected nonutility generation contributed 60% of new capacity additions in 2000 and is expected to represent 80% by 2010. Coverage has increased over time from facilities >25 MW before 1989 to include those >5 MW in 1989 and > 1 MW since 1992. Includes hot nitrogen and multi-fuel capacity after 1997.

Table 6.3 - Nonutility Power Producer Net Summer Capability

(Gigawatts)

	1980	1990	1999	2000	2010	2020
Coal [1]	N/A	6.6	8.4	8.9	8.6	8.6
Petroleum/Natural Gas [2]	N/A	22.1	38.0	40.1	48.1	56.7
Total Fossil Energy	N/A	30.1	46.4	49.0	56.7	65.3
Nuclear	N/A	s	0	0	0	0
Hydroelectric Pumped Storage	N/A	0	0	0	0	0
Conventional Hydroelectric	N/A	2.5	1.0	1.0	1.0	1.0
Geothermal	N/A	1	s	s	s	s
Wood [3]	N/A	5.6	5.3	5.3	6.6	8.4
Waste [4]	N/A	2.3	0.5	0.5	0.5	0.5
Wind	N/A	1.9	s	s	NA	NA
Solar Thermal and Photovoltaic	N/A	0.3	0.1	0.2	0.4	0.5
Total Renewable Energy	N/A	14.2	6.9	7.0	8.5	10.4
Total Electric Capability [5]	17.3	44.5	53.3	56.0	65.2	75.7

Sources: EIA, *Annual Energy Outlook 2002,* DOE/EIA-0383 (2002) (Washington, D.C., December 2001), Tables A9, A17 ; EIA, *Annual Energy Review 2000*, DOE/EIA-0384(2000) (Washington, D.C., August 2001), Table 8.7.

Notes:

[1] Coal, fine coal, anthracite culm, bituminous gob, lignite waste, tar coal, waste coal, and coke breeze.

[2] Petroleum. natural gas, and dual-fired facilities consuming fuel oil nos. 1, 2, 4, 5, and 6, crude oil, petroleum coke, kerosene, liquid butane, liquid propane, methanol, liquid byproducts, oil waste, sludge oil, tar oil, blast furnace gas, coke oven gas, butane gas, propane gas, refinery gas, and other process and waste gases derived from coal, petroleum, and natural gas. Includes 0.9 GW of Other capability (batteries, chemicals, hydrogen, pitch, sulfur, and purchased steam) every year after 1999.

[3] Wood, wood waste, black liquor, red liquor, spent sulfite liquor, wood sludge, peat, railroad ties, and utility poles.

[4] Municipal solid waste, landfill gas, methane, digester gas, liquid acetonitrile waste, tall oil, waste alcohol, medical waste, paper pellets, sludge waste, solide byproducts, tires, agricultural byproducts, closed looped biomass, fish oil, and straw.

[5] As of 1999, only cogenerators and off-grid nonutility generation. Coverage has increased over time from facilities >25 MW before 1989 to include those >5 MW in 1989 and >1 MW since 1992.

Table 6.4 - Regional Peak Loads

(Megawatts, except as noted)

	1990	1999	2000	1990	1999	2000
	Summer Peak			Winter Peak		
ECAR	79,258	99,239	97,557	67,097	86,239	86,455
ERCOT	42,737	55,529	54,817	35,815	39,164	44,287
FRCC	0	37,493	37,728	0	40,178	40,894
MAAC	42,613	51,645	51,206	36,551	40,220	43,139
MAIN	40,740	51,535	51,271	32,461	39,081	39,742
MAPP (U.S.)	24,994	31,903	32,899	21,113	25,200	27,363
NPCC (U.S.)	44,116	52,855	53,450	40,545	45,227	45,170
SERC	121,149	149,012	151,065	117,231	128,563	134,488
SPP	52,541	38,609	39,383	38,949	27,963	28,375
WSCC (U.S.)	97,389	113,629	116,440	94,252	99,080	102,435
Contiguous U.S.	545,537	681,449	685,816	484,014	570,915	592,348
ASCC (Alaska)	463	NF	NF	613	NF	NF
Hawaii	NF	NF	NF	NF	NF	NF
U.S. Total	546,000	681,449	685,816	484,627	570,915	592,348
Capacity Margin (%)	NA	14.4	14.6	NA	25.6	26.9

Source: EIA, *Annual Energy Review 2000,* DOE/EIA-0384(2000) (Washington, D.C., August 2001), Table 8.14.

NF = data not filed

2000 data are forecast estimates.

Table 6.5 - Electric Generator Cumulative Additions and Retirements

(Gigawatts)

	1980	1990	1999	2000	2010	2020
Cumulative Planned Additions						
Coal Steam					0	0
Other Fossil Steam					0	0
Combined Cycle					6.6	6.6
Combustion Turbine/Diesel					3.7	3.7
Nuclear					0	0
Pumped Storage					0.3	0.3
Fuel Cells					0.2	0.2
Renewable Sources					7.0	8.2
Distributed Generation					0	0
Total Planned Additions					17.7	19.0
Cumulative Unplanned Additions						
Coal Steam					6.2	31.2
Other Fossil Steam					0	0
Combined Cycle					101.9	175.9
Combustion Turbine/Diesel					53.6	105.9
Nuclear					0	0
Pumped Storage					0	0
Fuel Cells					0	0
Renewable Sources					0.6	3.4
Distributed Generation					5.1	19
Total Unplanned Additions					167.4	335.5
Cumulative Retirements						
Coal Steam					5.2	7.0
Other Fossil Steam					18.2	20.5
Combined Cycle					0	0
Combustion Turbine/Diesel					6.1	9.5
Nuclear					3.4	9.7
Pumped Storage					0	0
Fuel Cells					0	0
Renewable Sources					0.1	0.1
Total Retirements					33.1	46.9

Sources: EIA, *Annual Energy Outlook 2002,* DOE/EIA-0383 (2002) (Washington, D.C., December 2001), Table A9. Since December 31, 2000.

Table 6.6 - Combined Heat and Power Capability [1]

(Gigawatts)

	1980	1990	1999	2000	2010	2020
Coal			8.4	8.9	8.6	8.6
Petroleum			2.6	2.6	2.5	2.6
Natural Gas			33.8	35.9	43.5	51.6
Other Gaseous Fuels			0.7	0.7	1.2	1.6
Renewable Sources			5.8	5.8	7.1	8.9
Other Gaseous Fuels			0.9	0.9	0.9	0.9
Total			52.2	54.8	63.8	74.2

Sources: EIA, *Annual Energy Outlook 2002,* DOE/EIA-0383 (2002) (Washington, D.C., December 2001), Table A9.

Note:

[1] Nameplate capacity reported by cogenerators has been converted to net summer capability by EIA.

Table 6.7 - Transmission and Distribution Circuit Miles

(Miles)

Voltage (kilovolts)	1980	1990	1999	2000	2010
230	NA	70,511	76,762	80,096	85,547
345	NA	47,948	49,250	47,782	51,650
500	NA	23,958	26,038	26,326	27,784
765	NA	2,428	2,453	4,709	4,799
Total	NA	144,845	154,503	158,913	169,780

Sources: NERC, *Electricity Supply and Demand Database*, 2001, ftp://www.nerc.com/pub/sys/all_updl/docs/pubs/2001broc.pdf (bottom of page 3 for data on 2000 and 2010) and EIA, *Electricity Fact Sheets*, www.eia.doe.gov/cneaf/electricty/page/fact_sheets/facts.html (data for 1990 and 1999).